CLAIMS

1.   A data logging method for transferring log data to a server over a wireless network from a plurality of remote devices, said server for receiving data from the plurality of said devices, said method comprising the following steps:

scheduling a transfer period for transferring log data from a device to the server taking into account the wireless network signal strength of the device for the scheduled transfer period whereby the scheduled transfer period does not overlap a time when the estimated wireless network strength is too low to transfer the log data; and

transferring data determined by its respective transfer period in the schedule.

2.   A method as in claim 1 wherein the scheduling step comprises the following steps:

selecting a device from the plurality of devices;

providing a transfer size for data to be transferred from the selected device;

calculating, for the selected device, a transfer period including a start time and an end time to transfer the log data to the server, the calculation using the selected device's transfer size and using transfer periods of other devices if known;

estimating, for the selected device, wireless network signal strength data for the calculated transfer period;

performing, for the selected device, the calculating and estimating steps again if the transfer period overlaps a period of time where the estimated wireless network strength is below a predetermined threshold; and

storing the transfer period in a schedule.

3.   A method as in claim 2 further comprising:
acquiring the actual transfer size for a device before transferring the data;

recalculating the transfer period for the first device; and

recalculating transfer periods of other devices if the recalculated transfer period of the first device effects the transfer periods of the other devices.

4. A method as in claim 2 or 3, wherein, when calculating the transfer period, the server transfer capacity is taken into account.

5. A method as in claim 2, 3 or 4 wherein, an estimate is made using historical server transfer capacity data from a similar time period.

6. A method as in any of claims 2 to 4 wherein, for a particular device, more than one transfer period is calculated so that the data may be downloaded.

7. A method as in any of claims 2 to 6 wherein, the device alerts the server to the actual transfer size when or before transfer takes place.

8. A method as in any of claims 2 to 7 wherein, the server stores wireless network signal strength for each client with respect to time.

9. A method as in any of claims 2 to 8 wherein, the server makes an estimate of future wireless network signal strength for a particular client based on the signal strength at a previous time.

10. A method as in any of claims 2 to 9 wherein, the server stores wireless position data for each client with respect to time and makes an estimate of future wireless network signal strength by estimating future position based on the present position, direction of travel, and speed of travel.

11. A method as in any of claims 2 to 10 further comprising:

acquiring the actual wireless network signal strength before transferring log data; and

rescheduling the transfer period if actual wireless network strength is below a predetermined threshold.

12. A method as in any of claims 2 to 11 wherein the method is performed on devices in a defined priority.

13.   A method as in claim 12 wherein the priority is defined by the wireless network signal strength of each device.

14.   A method as in claim 12 or 13 wherein the priority is defined by the quantity of data to transfer of each device.

15.   A method as in claim 2, wherein there is provided a reserve channel for service information.

16.   A data logging system for transferring log data to a server over a wireless network from a plurality of remote devices, said server for receiving data from the plurality of said devices, said system comprising:

    means for scheduling a transfer period for transferring log data from a device to the server taking into account the wireless network signal strength of the device for the scheduled transfer period whereby the scheduled transfer period does not overlap a time when the estimated wireless network strength is too low to transfer the log data; and

    means for transferring data determined by its respective transfer period in the schedule.

17.   A computer program product for transferring log data from a plurality of remote devices to a server over a wireless network, said computer program product comprising computer program instructions stored on a computer-readable storage medium for, when loaded into a computer and executed, causing a computer to carry out the steps of:

    scheduling a transfer period for transferring log data from a device to the server taking into account the wireless network signal strength of the device for the scheduled transfer period whereby the scheduled transfer period does not overlap a time when the estimated wireless network strength is too low to transfer the log data; and

    transferring data determined by its respective transfer period in the schedule.

18.   A service for consolidating log data from a plurality of remote devices to a server over a wireless network and supplying said consolidated log data on demand to a service requester, said service performing a method comprising the steps of:

scheduling a transfer period for transferring log data from a device
to the server taking into account the wireless network signal strength of
the device for the scheduled transfer period whereby the scheduled
transfer period does not overlap a time when the estimated wireless
network strength is too low to transfer the log data; and

transferring data determined by its respective transfer period in
the schedule.

19.   A service requester for receiving consolidated log data collected by
a web service from a plurality of remote devices over a wireless network,
said service performing a method comprising the steps of:

scheduling a transfer period for transferring log data from a device
to the server taking into account the wireless network signal strength of
the device for the scheduled transfer period whereby the scheduled
transfer period does not overlap a time when the estimated wireless
network strength is too low to transfer the log data; and

transferring data determined by its respective transfer period in
the schedule.